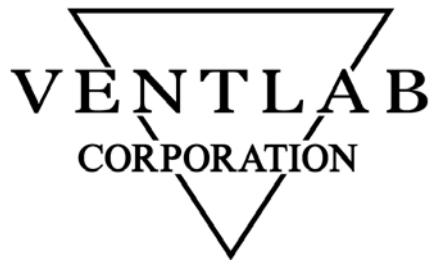


Product Reference Guide



“Premium” Disposable Adult Resuscitation Bags

Standard Adult bag volume = 1900 ml

VN1000MX Series- Disposable Adult Resuscitator with Collapsible Accumulator

VN1100MX Series- Disposable Adult Resuscitator with Manometer and Collapsible Accumulator



VN1000MB Series- Disposable Adult Resuscitator with Inflatable Bag O₂ Reservoir

VN1100MB Series- Disposable Adult Resuscitator with Manometer and Inflatable Bag O₂ Reservoir



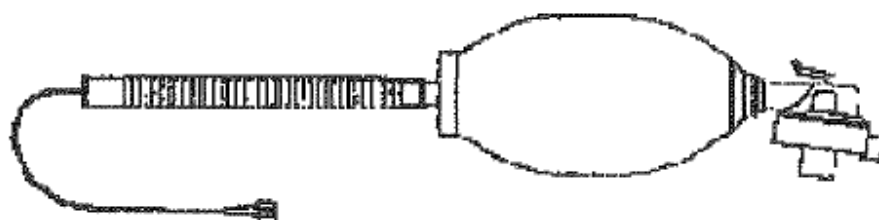
VN1000MC Series- Disposable Adult Resuscitator with Corrugated Tubing O₂ Reservoir

VN1100MC Series- Disposable Adult Resuscitator with Manometer and Corrugated Tubing O₂ Reservoir

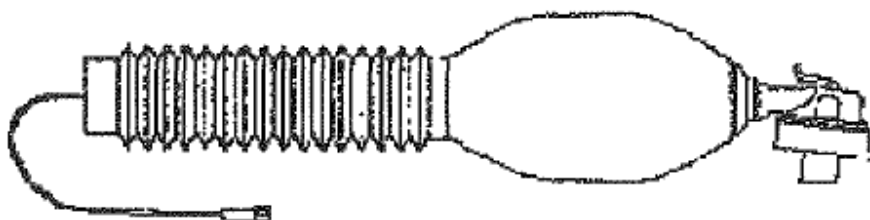


LATEX FREE

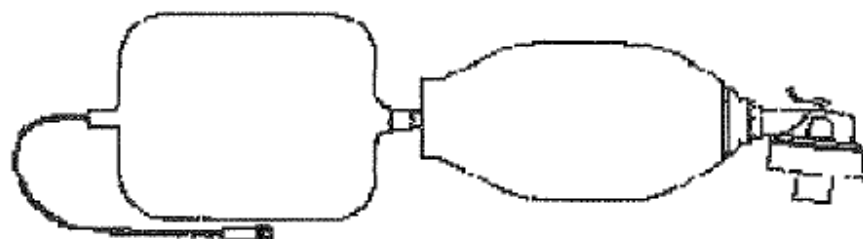
VN 1000 Resuscitators



VN 1000MX



VN 1000MC



VN 1000MB



ADULT MASK
(OPTIONAL)



POP-OFF VALVE
(OPTIONAL)



P.E.E.P VALVE
(OPTIONAL)



“Premium” Disposable Pediatric Resuscitation Bags

Pediatric bag volume = 1000 ml

VN2000MX Series- Disposable Pediatric Resuscitator with Collapsible Accumulator

VN2100MX Series- Disposable Pediatric Resuscitator with Manometer and Collapsible Accumulator



VN2000MB Series- Disposable Pediatric Resuscitator with Inflatable Bag O2 Reservoir

VN2100MB Series- Disposable Pediatric Resuscitator with Manometer and Inflatable Bag O2 Reservoir



VN2000MC Series- Disposable Pediatric Resuscitator with Corrugated Tubing Reservoir

VN2100MC Series- Disposable Pediatric Resuscitator with Manometer and Corrugated Tubing Reservoir



**** All resuscitation bags are available with or without a built-in pressure manometer and can be packaged with any of our accessories.**

LATEX FREE



“Premium” Infant Disposable Resuscitation Bags

VN3000MX Series- Disposable Infant Resuscitator with Collapsible Accumulator

VN3100MX Series- Disposable Infant Resuscitator with Manometer and Collapsible Accumulator



VN3000MB Series- Disposable Infant Resuscitator with Inflatable O₂ Bag Reservoir

VN3100MB Series- Disposable Infant Resuscitator with Manometer and Inflatable O₂ Bag Reservoir



VN3000MC Series- Disposable Infant Resuscitator with Corrugated Tubing O₂ Reservoir

VN3100MC Series- Disposable Infant Resuscitator with Manometer and Corrugated Tubing O₂ Reservoir

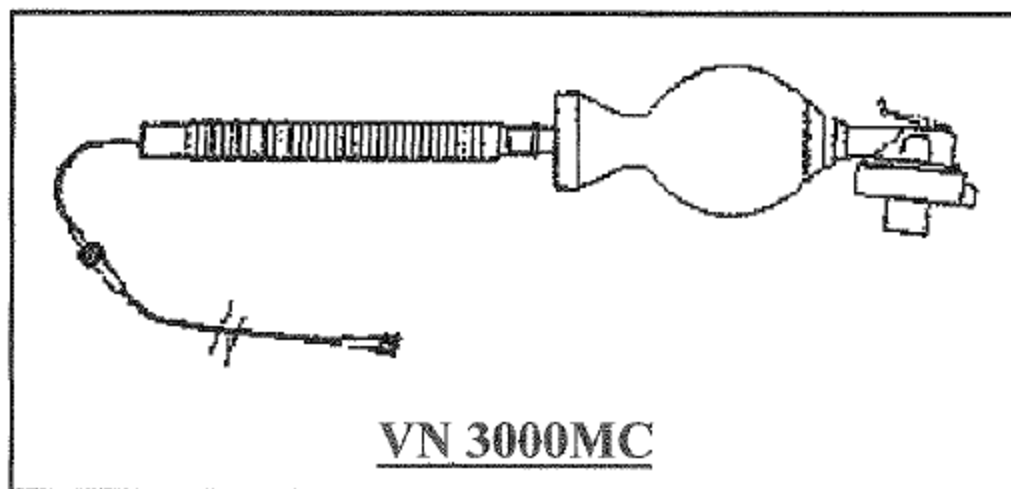
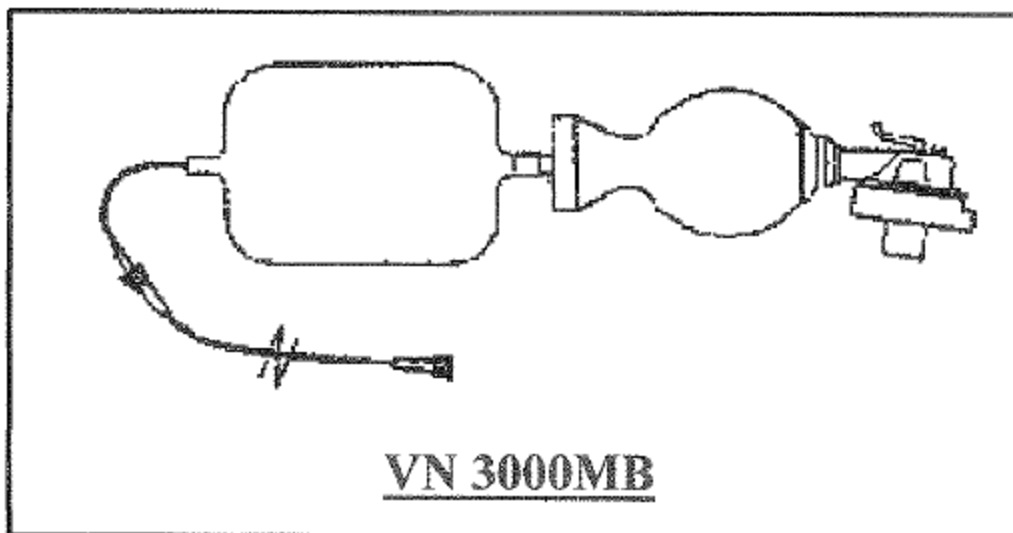


**** All resuscitation bags are available with or without a built-in pressure manometer and can be packaged with any of our accessories.**

LATEX FREE



VN 3000 Resuscitators



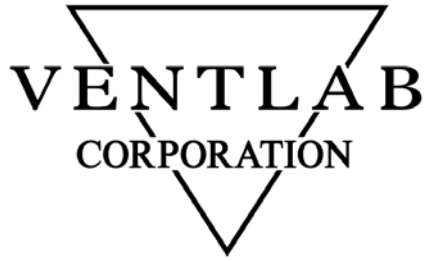
INFANT MASK



PRESSURE PORT
ADAPTER



P.E.E.P. VALVE
(OPTIONAL)



“Premium” Disposable Small Child Resuscitation Bags

Small Child bag volume = 500 ml

VN4000MC Series- Disposable Small Child Resuscitator with Corrugated Tubing O₂ Reservoir

VN4100MC Series- Disposable Small Child Resuscitator with Manometer and Corrugated Tubing O₂ Reservoir



VN4000MB Series- Disposable Small Child Resuscitator with Inflatable O₂ Bag Reservoir

VN4100MB Series- Disposable Small Child Resuscitator with Manometer and Inflatable O₂ Bag Reservoir



**** All resuscitation bags are available with or without a built-in pressure manometer and can be packaged with any of our accessories.**

LATEX FREE



“Premium” Disposable Small-Adult Resuscitation Bags

Small Adult Bag Volume = 1500 ml

VN5000MX Series-Disposable Small Adult Resuscitator with Collapsible Accumulator

VN5100MX Series- Disposable Small Adult Resuscitator with Manometer and Collapsible Accumulator



VN5000MB Series-Disposable Small Adult Resuscitator with Inflatable Bag O₂ Reservoir

VN5100MB Series-Disposable Small Adult Resuscitator with Manometer and Inflatable Bag O₂ Reservoir



VN5000MC Series-Disposable Small Adult Resuscitator with Corrugated Tubing Reservoir

VN5100MC Series-Disposable Small Adult Resuscitator with Manometer and Corrugated Tubing Reservoir



LATEX FREE



155 Boyce Drive
Mocksville, NC 27028
(336) 753-5000 (Phone)
(336) 753-5002 (Fax)
www.ventlab.com

V*CARE SMALL ADULT RESUSCITATOR With Built-In Pressure Monitor VN 5100 Series

LATEX FREE

Single Patient Use

Non-Sterile

The VN 5100 Series is designed for use in various clinical situations to provide respiratory support in the presence of reversible apnea commonly associated with respiratory arrest.

WARNINGS:

THIS DEVICE SHOULD ONLY BE USED BY PERSONNEL TRAINED IN ADULT CPR PROCEDURES.

CONSTANTLY MONITOR PATIENT FOR EFFECTIVENESS OF VENTILATION WHILE DEVICE IS IN USE.

FOR FIRE SAFETY: WHEN USING OXYGEN WITH THIS DEVICE, DO NOT USE WITHIN 3 FEET OF DEFIBRILLATION EQUIPMENT, OPEN FLAME OR SPARK PRODUCING EQUIPMENT.

DO NOT ATTEMPT TO STERILIZE OR DISINFECT THIS DEVICE OR ITS COMPONENTS.

PREPARATION FOR USE

1. Test the resuscitator for proper functioning: With patient port completely occluded, squeeze bag body to assure resistance is present and positive needle movement occurs.
2. Before using the mask, inspect for adequate inflation.
3. The VN 5100 may be used with a 19mm ID P.E.E.P. accessory. Attach P.E.E.P. accessory to the exhalation port. Be sure that the accessory fits properly and does not interfere with compression of the resuscitator.
4. Actual P.E.E.P. may vary with patient lung compliance and resistance. Verify P.E.E.P. with a manometer.
5. For correct performance:
 - VN 5100MX - Stretch out the collapsible accumulator completely.
 - VN 5100MB - Unfold the reservoir bag and assure that airflow is not restricted.
 - VN 5100MC - Extend reservoir hose to full length.

DIRECTIONS FOR USE

1. Place the patient in a supine position. Establish and maintain an open airway.
 2. Grasp bag body with one hand.
 3. Hold the mask between the index finger and thumb of the other hand. Place mask over face firmly to form a tight seal around the patient's nose and mouth.
 4. Ventilate the patient by compressing the bag body for inhalation and releasing the bag body for patient's passive exhalation and bag body re-expansion. Continue this cycle as directed by medical authority.
 5. Monitor peak airway pressure by observing gauge on built-in pressure monitor.
 6. To remove vomitus: Disconnect resuscitator from patient. Tap the patient valve several times while squeezing the bag body. Retest the resuscitator for proper functioning.
 7. If patient is intubated, remove mask from patient port. Connect patient port directly to the endotracheal tube adapter. Continue ventilation.
 8. Using supplemental oxygen: Connect oxygen supply tubing to O₂ source at appropriate flow rate. FDO₂ values may be compromised if oxygen flow is not sufficient. Oxygen flows >15 lpm may be necessary.
- DO NOT LET FLOW RATE EXCEED 30 LPM DUE TO POSSIBLE INCREASE IN EXHALATION RESISTANCE.**

CAUTION: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

CAUTION: When using the optional POP-OFF feature on adult patients, pressures may not be sufficient to insure adequate ventilation.

CAUTION: ON MODELS WITH OPTIONAL POP-OFF FEATURE: To override the POP-OFF feature, insert tethered cap into POP-OFF opening. Monitor pressure if using device in 'Hi Press' Mode.

V*CARE 5100 Series Performance Data

PARAMETERS	V*CARE SMALL ADULT RESUSCITATORS SPECS
BAG VOLUME	1500 ml
STROKE VOLUME	≥800 ml (ASTM Standard Hand)
DEADSPACE	10 ml with Mask or Low Dead Space Adapter
FORWARD AND BACKWARD LEAK	not measurable
INSPIRATORY RESISTANCE	<4 cm H ₂ O
ACCURACY OF MANOMETER	±3 cm H ₂ O
EXHALATION RESISTANCE	<4 cm H ₂ O @ 50 lpm flow
PRESSURE RELIEF (optional)	40 cm H ₂ O
ATTAINABLE DELIVERY PRESSURE	≥80 cm H ₂ O
VENTILATORY FREQUENCY	≥60 bpm (NO LOAD)
OPERATING TEMPERATURE	-18°C to 51°C (0°F to 123°F)
STORAGE ENVIRONMENT LIMITS	-40°C to 60°C (-40°F to 140°F)
PATIENT PORT INLET	15 mm / 22 mm
AVG. DEVICE MASS w/o MASK	0.38 kg (0.84 lb.)
AVG. LENGTH (BASIC MODEL)	33 cm (13")
BODY MASS USE RANGE	≥40 kg (88 lbs.)

VN 5100 SERIES DELIVERED OXYGEN CONCENTRATION

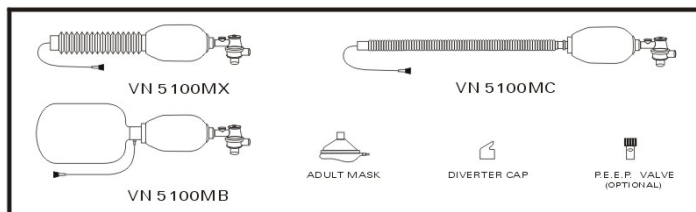
TIDAL VOLUME	550 ml	550 ml	550 ml
RATE	12 bpm	15 bpm	20 bpm
O ₂ flowrate	15 lpm	15 lpm	15 lpm
FDO ₂	99%	99%	99%

RE-ORDERING INFORMATION

PRODUCT NO.	DESCRIPTION	QTY./ CASE
VN 5100MX	Small Adult Bag, Mask w/Collapsible Accumulator	10
VN 5100MB	Small Adult Bag, Mask w/Inflatable Bag O ₂ Reservoir	10
VN 5100MC	Small Adult Bag, Mask w/Corrugated Tubing O ₂ Reservoir	10

V*Care Disposable Resuscitators are also available in Adult, Pediatric, Small Child and Infant sizes with a variety of configurations and accessories.

Call us today for all your customized Resuscitator needs!





Disposable AirFlow Resuscitation Bags

All Bags are assembled with the Guardian Disposable Viral/ Bacterial Filter. The Guardian filter has a 19mm ID Inlet Port and Accepts 19mm or 30mm PEEP Valves

AF1040MB Series-Airflow Adult Disposable Resuscitator assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

AF1140MB Series- AirFlow Adult Disposable Resuscitator with Manometer; assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

AF5040MB Series- Airflow Small Adult Disposable Resuscitator assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

AF5140MB Series- AirFlow Small Adult Resuscitator with Manometer; assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.



LATEX FREE

AirFlow

SMALL ADULT RESUSCITATOR With Built-In Pressure Monitor

AF 5100 Series

*** LATEX FREE ***

Single Patient Use

Non-Sterile

The AF 5100 Series is designed for use in various clinical situations to provide respiratory support in the presence of reversible apnea commonly associated with respiratory arrest.

WARNINGS:

THIS DEVICE SHOULD ONLY BE USED BY PERSONNEL TRAINED IN ADULT CPR PROCEDURES.

CONSTANTLY MONITOR PATIENT FOR EFFECTIVENESS OF VENTILATION WHILE DEVICE IS IN USE.

FOR FIRE SAFETY: WHEN USING OXYGEN WITH THIS DEVICE, DO NOT USE WITHIN 3 FEET OF DEFIBRILLATION EQUIPMENT, OPEN FLAME OR SPARK PRODUCING EQUIPMENT.

DO NOT ATTEMPT TO STERILIZE OR DISINFECT THIS DEVICE OR ITS COMPONENTS.

PREPARATION FOR USE

1. Test the resuscitator for proper functioning: With patient port completely occluded, squeeze bag body to assure resistance is present and positive gauge needle movement occurs.
2. Before using the mask, inspect for adequate inflation.
3. The AF 5100 may be used with a 19mm ID P.E.E.P. accessory. Attach P.E.E.P. accessory to the exhalation port. Be sure that the accessory fits properly and does not interfere with compression of the resuscitator.
4. Actual P.E.E.P. may vary with patient lung compliance and resistance. Verify P.E.E.P. with a certified manometer.
5. For correct performance:
 - AF 5100MB - Unfold the reservoir bag and assure that airflow is not restricted.
 - AF 5100MC - Extend reservoir hose to full length.

DIRECTIONS FOR USE

1. Place the patient in a supine position. Establish and maintain an open airway.
2. Grasp bag body with one hand.
3. Hold the mask between the index finger and thumb of the other hand. Place mask over face firmly to form a tight seal around the patient's nose and mouth.
4. Ventilate the patient by compressing the bag body for inhalation and releasing the bag body for patient's passive exhalation and bag body re-expansion. Continue this cycle as directed by medical authority.
5. Monitor peak airway pressure by observing the built-in pressure monitor.
6. To remove vomitus: Disconnect resuscitator from patient. Tap the patient valve several times while squeezing the bag body. Retest the resuscitator for proper functioning.
7. After patient is intubated, remove mask from patient port. Connect patient port directly to the endotracheal tube adapter. Continue ventilation.
8. To use supplemental oxygen: Connect oxygen supply tubing to O₂ source at appropriate flow rate. FDO₂ values may be affected if flow is not sufficient. Oxygen flows ≥ 15 lpm may be necessary.

DO NOT LET FLOW RATE EXCEED 30 LPM DUE TO POSSIBLE INCREASE IN EXHALATION RESISTANCE.

CAUTION: Federal (U.S.A.) law restricts this device to sale by or on the order of a physician.

CAUTION: When using the optional POP-OFF feature on adults, pressures may not be sufficient to insure adequate ventilation.

CAUTION: ON MODELS WITH OPTIONAL POP-OFF FEATURE: To override the POP-OFF feature, insert tethered cap into POP-OFF opening.

AF 5100 Series Performance Data

PARAMETERS	SMALL ADULT RESUSCITATORS SPECS
BAG VOLUME	1500 ml
STROKE VOLUME	≥ 800 ml (ASTM Standard Hand)
DEADSPACE	10 ml with Mask or Low Dead Space Adapter
FORWARD AND BACKWARD LEAK	not measurable
INSPIRATORY RESISTANCE	< 4 cm H ₂ O
ACCURACY OF MANOMETER	± 3 cm H ₂ O
EXHALATION RESISTANCE	< 4 cm H ₂ O @ 50 lpm flow
PRESSURE RELIEF	40 cm H ₂ O
ATTAINABLE DELIVERY PRESSURE	≥ 80 cm H ₂ O
VENTILATORY FREQUENCY	≥ 60 bpm (NO LOAD)
OPERATING TEMPERATURE	-18°C to 51°C (0°F to 123°F)
STORAGE ENVIRONMENT LIMITS	-40°C to 60°C (-40°F to 140°F)
PATIENT PORT INLET	15 mm / 22 mm
AVG. DEVICE MASS w/o MASK	0.38 kg (0.84 lb.)
AVG. LENGTH (BASIC MODEL)	33 cm (13")
BODY MASS USE RANGE	≥ 40 kg (88 lbs.)

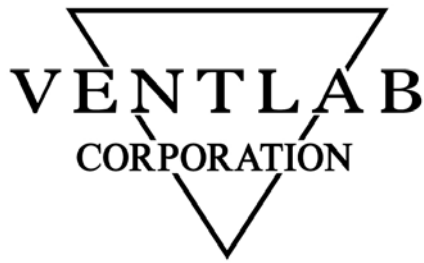
AF 5100 SERIES DELIVERED OXYGEN CONCENTRATION

TIDAL VOLUME	550 ml	550 ml	550 ml
RATE	12 bpm	15 bpm	20 bpm
O ₂ flowrate	15 lpm	15 lpm	15 lpm
FDO ₂	99%	99%	99%

AirFlow Disposable Resuscitators are also available in Adult, Pediatric, Small Child and Infant sizes with a variety of configurations and accessories.

Call us today for all your customized Resuscitator needs!

Manufactured by:
Ventlab Corporation
155 Boyce Drive Mocksville, NC 27028
[336] 753-5000 [336] 753-5002 FAX
www.ventlab.com



Disposable AirFlow Resuscitation Bags

All Bags are assembled with the Guardian Disposable Viral/ Bacterial Filter. The Guardian filter has a 19mm ID Inlet Port and Accepts 19mm or 30mm PEEP Valves

AF2040MB Series- AirFlow Pediatric Disposable Resuscitator assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir



AF2140MB Series- AirFlow Pediatric Disposable Resuscitator with Manometer; assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

AF4040MB Series- AirFlow Small Child Disposable Resuscitator assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.



AF4140MB Series- AirFlow Small Child Disposable Resuscitator with Manometer; assembled with a Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

LATEX FREE



Disposable AirFlow Resuscitation Bags

All Bags are assembled with the Guardian Disposable Viral/ Bacterial Filter. The Guardian filter has a 19mm ID Inlet Port and Accepts 19mm or 30mm PEEP Valves

AF3040MB Series-AirFlow Infant Disposable Resuscitator assembled with the Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.

AF3140MB Series- AirFlow Infant Disposable Resuscitator with Manometer; assembled with a Guardian Disposable Viral/Bacterial Filter and inflatable O2 bag reservoir.



LATEX FREE

A.C.E

Airway Circulation Evaluator

Latex Free

STAT-Check

CO₂ Indicator & Resuscitation Bag

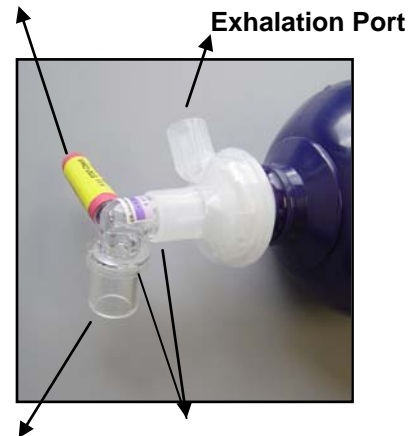
IT'S SAFE TO BE SURE!!!



The A.C.E. **STAT-Check** indicator is not located on the exhalation port, therefore reducing risk of ambient CO₂ indicating a false positive.

- Integrated Colorimetric CO₂ Indicator
- Small Compact Design
- Simple to use: Easy to view, one color Interpretation
- A.C.E. **STAT-Check** also sold separately

ACE/ **STAT-Check** Indicator Arm



Stand-Alone A.C.E. STAT-Check Indicator

(Patient Connection Port)

(Double swivel Elbow)

Parameters	Adult	Pediatric
Bag Volume	1900ml	1000ml
Stroke Volume (ASTM Standard Hand)	>960ml	450-700 ml
F _D O ₂	99%	99%
BPM (@ room temp)	>65	>65
Reorder Numbers	SC9000 series	SC8000 series

Manufactured by:
Ventlab Corporation
Mocksville, NC 27028
336-753-5000

**Infant Resuscitation bags available with
“stand-alone” STAT-Check**

US Patent 4945918 and others pending

STAT-Check Resuscitation Bag



Airway Circulation Evaluator (A.C.E.) Stat-Check CO₂ Indicator (stand-alone product # SC200)

The Stat-Check is used as an adjunct assessment tool for verification of successful intubation. There is only one color interpretation (white to purple) of CO₂ concentration making it simple to use. The A.C.E. Stat Check indicator is not located on the exhalation port, therefore reducing risk of ambient CO₂ indicating a false positive. Integrate the *STAT-Check* CO₂ indicator to one of our resuscitation bags below.

Ventlab Resuscitation Bags (*Built-in Manometer* option below)

Product #	Description	Case Qty.
VN 1000MX	Adult Bag, Mask w/Collapsible Accumulator	10ea/case
VN 1000MB	Adult Bag, Mask w/Inflatable Bag O ₂ Reservoir	10ea/case
VN 1000MC	Adult Bag, Mask w/Corr. Tubing O ₂ Reservoir	10ea/case
VN 1000OX	Adult Bag, w/Collapsible Accumulator, No Mask	10ea/case
VN 1000MXP	Adult Bag, PEEP w/Collapsible Accumulator	10ea/case
VN 5000MX	Small Adult Bag, Mask w/Collapsible Accumulator	10ea/case
VN 5000MB	Small Adult Bag, Mask w/Inflatable Bag O ₂ Reservoir	10ea/case
VN 2000MX	Pediatric Bag, Mask w/Collapsible Accumulator	10ea/case
VN 2000MB	Pediatric Bag, Mask w/Inflatable Bag O ₂ Reservoir	10ea/case
VN 2000MC	Pediatric Bag, Mask w/Corr. Tubing O ₂ Reservoir	10ea/case
VN 4000MB	Sm. Child Bag, Mask w/ Inflatable Bag O ₂ Reservoir	10ea/case
VN 4000MC	Sm. Child Bag, Mask w/ Corr. Tubing O ₂ Reservoir	10ea/case
VN 3000MX	Infant Bag, Mask w/Collapsible Accumulator	10ea/case
VN 3000MB	Infant Bag, Mask w/ Inflatable Bag O ₂ Reservoir	10ea/case
VN 3000MC	Infant Bag, Mask w/ Corr. Tubing O ₂ Reservoir	10ea/case
VN x100xx	All available with Manometer (see below)	10ea/case
	Example: VN 3000MX (infant bag, no manometer)	
	VN 3100MX (infant bag, with manometer)	



Disposable Adult Resuscitation Bags with CO₂ Indicator

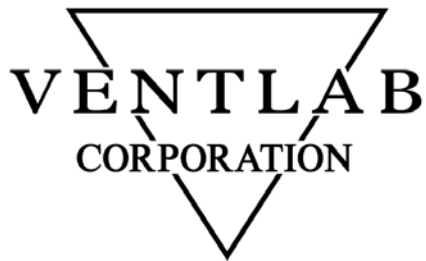
SC9000B Series - STAT-Check
Adult Disposable Resuscitation Bag with
Integrated Colorimetric CO₂ Indicator and
Inflatable O₂ Bag Reservoir



SC9000C Series - STAT-Check
Adult Disposable Resuscitation Bag with
Integrated Colorimetric CO₂ Indicator and
Corrugated Tubing O₂ Reservoir



LATEX FREE



Disposable Pediatric STAT-Check Resuscitation Bags with CO₂ Indicator

SC8000MB Series- Pediatric Disposable Resuscitator with Integrated CO₂ Indicator and Inflatable O₂ Bag Reservoir



SC8000MC Series- Pediatric Disposable Resuscitator with Integrated CO₂ Indicator and Corrugated Tubing O₂ Reservoir



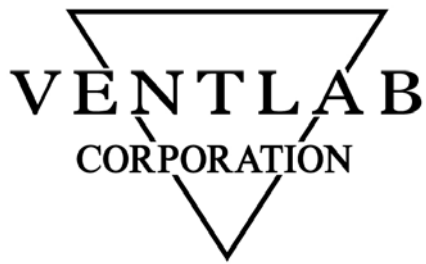
SC8100MB Series- Pediatric Disposable Resuscitator with Manometer, Colorimetric CO₂ Indicator and Inflatable O₂ Bag Reservoir



SC8100MC Series- Pediatric Disposable Resuscitator with Manometer, Colorimetric CO₂ Indicator and Corrugated Tubing O₂ Reservoir



LATEX FREE



Disposable Infant STAT-Check Resuscitation Bags with CO₂ Indicator

SC7000MB Series-Infant Disposable
Resuscitator with CO₂ Indicator and
Inflatable O₂ Bag Reservoir

SC7100MB Series-Infant Disposable
Resuscitator with Manometer, CO₂ Indicator
and Inflatable O₂ Bag Reservoir

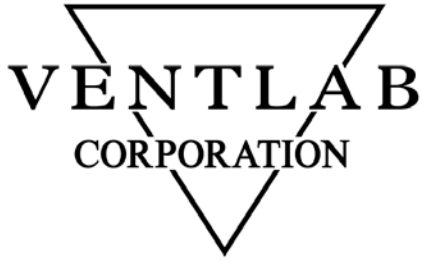


SC7000MC Series- Infant Disposable
Resuscitator with CO₂ Indicator and
Corrugated Tubing O₂ Reservoir

SC7100MC Series- Infant Disposable
Resuscitator with Manometer, CO₂ Indicator
and Corrugated Tubing O₂ Reservoir



LATEX FREE



Esophageal Intubation Detection

SC200 -STAT-Check CO₂ Indicator

The STAT-Check is used as an adjunct assessment tool for verification of successful ventilation/ intubation. There is only one color interpretation (white to purple) of CO₂ concentration making it simple to use and easy to view.



SB100- Verify II Detector Bulb

The Verify II is designed to assist in verification of the endotracheal tube placement and may also be used to inflate endotracheal tube cuff or a facemask





VENTLAB
CORPORATION

PRODUCTS



Hyperinflation Systems

The Hyperinflation System with Manometer has a built-in color coded manometer with a 40 cm Pressure Relief Pop-Off valve, Swivel Patient Connection Elbow and a Latex-Free triple pleated bag (1/4 liter bag has two pleats). As with all Ventlab product, the Hyperinflation system is completely *Latex-Free*.

Hyperinflation Bag
- with Manometer



Hyperinflation Bag
- no Manometer



Hyperinflation Systems
Available in These Sizes



Hyperinflation Systems

Use the table below to customize your product. Replace the first red number with the desired size face mask (0 for no mask) and the second red number for bag size as indicated in the example.

All Hyperinflation Systems are packaged 20 per case.

Hyperinflation System - With Manometer

Example: **HS4251** = Infant Mask and ½ liter Bag

Masks	Bags
0 = No Mask	4 = ¼ liter
1 = SM Infant	5 = ½ liter
2 = Infant	1 = 1 liter
3 = SM Child	2 = 2 liter
4 = Child	3 = 3 liter
5 = Adult (reg)	
6 = Adult (large)	
7 = Adult (reg. wide)	



Hyperinflation System - No Manometer

Example: **HS1250** = Infant Mask and ½ liter Bag

Masks	Bags
0 = No Mask	4 = ¼ liter
1 = SM Infant	5 = ½ liter
2 = Infant	1 = 1 liter
3 = SM Child	2 = 2 liter
4 = Child	3 = 3 liter
5 = Adult (reg)	
6 = Adult (large)	
7 = Adult (reg. wide)	

Also available! *NEW* Small Neonate and Extra Small Neonate to better service the needs of premature infants. When ordering, use 0 as the first red number followed by the appropriate number representing the bag size desired (Please see above example). At the end of the product number, add **-M0** for the Small Neonate Mask or **-M00** for the Extra Small Neonate Mask.

Example: **HS4051-M0** = Small Neonate Mask and 1/2 liter Bag.

For further assistance, please contact Customer Service at 1-800-593-4654.



The Ventlab Hyperinflation System

Our Hyperinflation systems are available in 5 sizes, 1/4 liter to 3 liter, and are available with or without a built-in manometer. You may also choose to include a facemask to complete the system.

HS1000 Series- Hyperinflation System

System includes standard patient connection elbow, latex free breathing bag, O₂ tubing and pressure tubing.

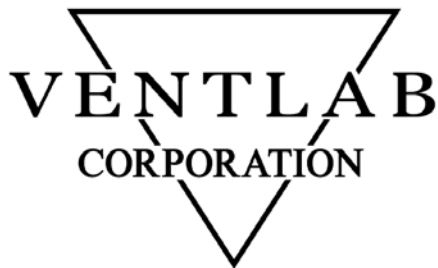


HS 4000 Series- Hyperinflation System

System includes standard patient connection elbow with manometer, latex free breathing bag and O₂ tubing.



LATEX FREE



Ventlab Face Masks

Vent Mask- The Vent Mask is a “Premium” inflatable soft cushioned pliable mask that has an ultra thin wall and an air filled cushion, providing a low-pressure soft seal and superior seating characteristics.

<u>Product #</u>	<u>Description</u>	
<u>Case Qty.</u>		
VR1100	Small Infant	20,40
VR2100	Infant	20,40
VR3100	Small Child	20,40
VR4100	Child	20,40
VR5100	Adult	20,50,100
VR5200	Adult-Wide	20,50,100
VR6100	Adult-Large	20,50,100

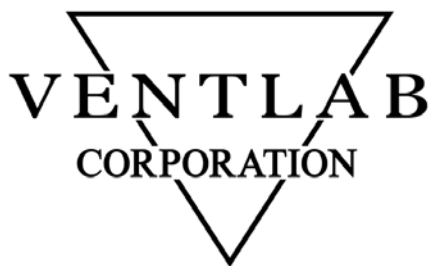


Vent Mask II- The Vent Mask II is a **non-inflatable** soft cushion mask offering the same superior comfort and seal as our original mask, maximizing both quality and value.

Product #	Description	
Case Qty.		
VR0040	Extra Small Neonate	20,40
VR0400	Small Neonate	20,40
VR1400	Small Infant	20,40
VR2400	Infant	20,40
VR3400	Small Child	20,40
VR4400	Child	20,40
VR5400	Adult	20,50,100
VR6400	Adult-Large	20,50,100



LATEX FREE



Ventlab Face Masks

O₂ Masks- Our O₂ masks are available in three sizes, which can be ordered separately or combined with spacer products.

Product #	Description	
Case Qty.		
M10	Large O ₂ Mask	10
M20	Medium O ₂ Mask	10
M30	Small O ₂ Mask	10



M10

M20

M30

Round Soft Seal Masks

The Round Soft Seal masks are available in three sizes.

Product #	Description	
Case Qty.		
VR1600	Neonatal	20
VR2600	Infant	20
VR3600	Child	20

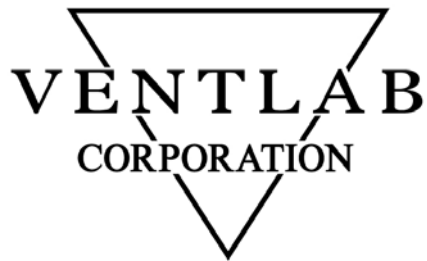


VR3600

VR2600

VR1600

LATEX FREE



Ventlab Face Masks

Soft-Aire – *The Soft-Aire Mask is an inflatable soft cushion mask offering the same superior comfort and seal as our original mask, maximizing both quality and value.*

Product # Case Qty.	Description	
VR1700	Small Infant	20,40
VR2700	Infant	20,40
VR3700	Small Child	20,40
VR4700	Child	20,40
VR5700	Adult	20,50,100
VR6700	Adult-Wide	20,50,100
VR7700	Adult-Extra Large Wide	20,50,100



LATEX FREE



Part #	FH603005	FH603006	FH603007	FH603008
Vt Range (ml)	250-1500	250-1500	250-1500	250-1500
Moisture Out-put (mgH ₂ O/L) +/-0.1g	33	33	33	33
Weight (grams)	38.3	37.1	36.4	37.2
Dead Space (ml)	90	90	90	90
Resistance (cmH ₂ O) 8 LPM	<1	<1	<1	<1
Resistance (cmH ₂ O) 30 LPM	<1	<1	<1	<1
Sampling Port	No	No	Yes	Yes
Filter	Yes	No	No	Yes
Case Qty.	50	50	50	50
B/ V Efficiency	>99.99%	N/A	N/A	>99.99%

HME & HMEF



Part #	FH603009	FH603010	FH603011	FH603012
Vt Range (ml)	250-1500	250-1500	200-1500	200-1500
Moisture Output (mgH ₂ O/L) +/-0.1g	36	34	32.5	32
Weight (grams)	38.3	37.1	37.2	36.4
Dead Space (ml)	74	74	62	62
Resistance (cmH ₂ O) 8 LPM	<1	<1	<1	<1
Resistance (cmH ₂ O) 30 LPM	<2	<1	<1	<1
Sampling Port	Yes	Yes	Yes	Yes
Filter	Yes	No	Yes	No
Case Qty.	50	50	50	50
B/ V Ef- ficiency	>99.99%	N/A	>99.99%	N/A

HME & HMEF



Part #	FH603013 FH603025 w/o port	FH603014 FH603024 w/o port	FH603021 FH603023 w/o port	FH603020 FH603022 w/o port
Vt Range (ml)	150-1000	150-1000	150-1000	150-1000
Moisture Output (mgH ₂ O/L) +/-0.1g	31.5	31	31.5	31
Weight (grams)	23.6	24.7	23.6	24.7
Dead Space (ml))	36	36	32	32
Resistance (cmH ₂ O) 8 LPM	<1	<1	<1	<1
Resistance (cmH ₂ O) 30 LPM	<3	<1	<1	<2
Sampling Port	Yes	Yes	Yes	Yes
Filter	Yes	No	No	Yes
Case Qty.	50	50	50	50
B/ V Efficiency	>99.99%	N/A	N/A	>99.99%

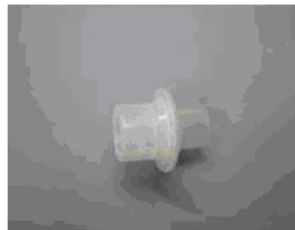
B/V Filters

22mmOD/15mmIX X 22mmID

Accepts 19mm



Accepts 19mm or 30 mm



Vt Range > 250 ml



Part #	BF101	BF102	BF103	FH603003	FH603004
B/ V Efficiency	>99.99%	>99.99%	>99.99%	>99.99%	>99.99%
Weight (grams)	9.6	11.8	12.4	25.0	25.7
Dead Space (ml)	16	20	29	54	54
Resistance (cmH ₂ O) 8 LPM	<1	<1	<1	<1	<1
Resistance (cmH ₂ O) 30 LPM	<1.8	<2.2	<2	<1 <2 @60LPM	<1 <2 @60LPM
Sampling Port	No	No	No	No	Yes
Case Qty.	50	50	50	50	50

Accessories for HME & HMEF

15mmOD X 15 mmOD
w/ 6" 15mm flex tube



FH106347

15mmOD X
22mmOD/15mmID
w/ 6" 15 mm ID flex
tube



FH106348

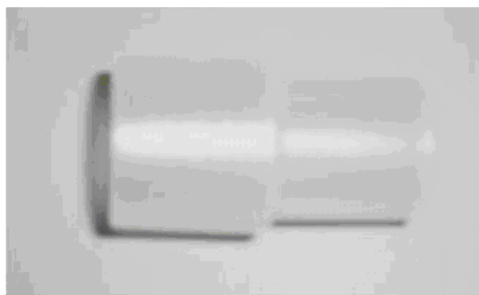
15mmOD X
22mmOD/15mmID w/ 6"
15 mm ID flex tube
w/15mmOD X15mmOD
connector



FH106380

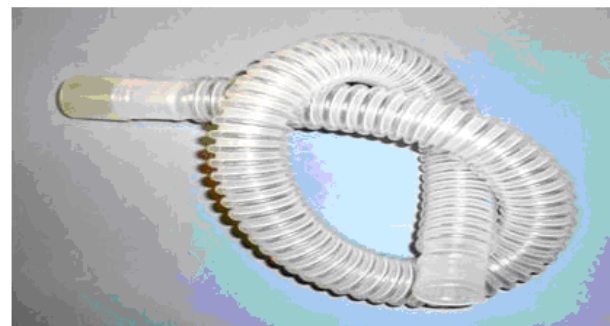
Accessories for B/V Filters

22mmID/OD cuff



FH710023

22mmID/OD adapter w/ 22mm corrugated tube 24"



FH106346



Common Potentially Infectious Bacteria and Viruses: Particle sizes are in μ (Microns)

Adenovirus	- 0.07 μ	Influenza Virus	- 0.08-0.1 μ
Cytomegalovirus	- 0.1 μ	Mycobacterium Tuberculosis	- 0.3 μ x 1.0 μ (smallest size)
Hepatitis A Virus	- 0.027-0.029 μ	Orthomyxovirus	- 0.1 μ
Hepatitis B Virus	- 0.02 μ	Pseudomonas Aeruginosa	- 0.5 μ
Hepatitis C Virus	- 0.04-0.05 μ	Pseudomonas Diminuta	- 0.5 μ
Hepatitis D Virus	- 0.036-0.043 μ	Sars	- 0.1 μ
Hepatitis E Virus	- 0.027-0.034 μ	Serratia Marcescens	- 0.45 μ
HIV	- 0.08 μ	Staphylococcus Aureus	- 1.0 μ

Test Virus/Bacteria

ϕ X174 Bacteriophage - 0.027 μ

Filtration Efficiency based on the challenge Bacteriophage, conducted by Nelson Laboratories was found to > 99.99%.

NOTE

For years the standard resistance test subjected Adult Filters, HME's and HMEF's to flow rates of 30 liters per minute. Pediatric and infant are generally subjected to 8 liters per minute.

It is interesting to note that an average adult with an average tidal volume has an exhaled flow rate between 11 and 13 liters per minute.

As you can see, a test which subjects a media to 30 liters per minute allows a huge margin for assured patient safety.



HME & HMEF

Heat Moisture Exchangers & Heat Moisture Exchangers w/ Filter

Part #	Vt Range (ml)	Moisture Output (mgH ₂ O/L) +/- 0.1g	Weight (grams)	Resistance (cmH ₂ O) 8 LPM	Resistance (cmH ₂ O) 30 LPM	Dead Space (ml)	Sampling Port	Filter	Case Qty.
603005	250-1500	33	41.63	<1	<1	90	no	yes	50
603006	250-1500	33	40.22	<1	<1	90	no	no	50
603007	250-1500	33	40.84	<1	<1	90	yes	no	50
603008	250-1500	33	41.99	<1	<1	90	yes	yes	50
603009	250-1500	36	38.26	<1	<1.2	74	yes	yes	50
603010	250-1500	34	37.08	<1	<1	74	yes	no	50
603011	250-1500	32.5	37.15	<1	<1	62	yes	yes	50
603012	250-1500	32	36.35	<1	<1	62	yes	no	50
603013	150-1000	31.5	24.7	<1	<2.6	36	yes	yes	50
603014	150-1000	31	25.45	<1	<1	36	yes	no	50
603020	150-1000	31	23.6	<1	<1.6	32	yes	yes	50
603021	150-1000	31.5	24.8	<1	<1	32	yes	no	50
603022	150-1000	31	23.6	<1	<1.6	32	no	yes	50
603023	150-1000	31.5	24.7	<1	<1	36	no	no	50
603024	150-1000	31	23.6	<1	<1	32	no	no	50
603025	150-1000	31.5	24.7	<1	<2.6	36	no	yes	50

BVF

Bacteria/Viral Filters

603000	N/A	N/A	N/A	<1	<2	11	no	YES	50
603001	N/A	N/A	N/A	<1	<2.2	12	no	YES	50
603002	N/A	N/A	N/A	<1	<2	13	no	YES	50
603003	N/A	N/A	25.04	<1	<1	54	no	YES	50
603004	N/A	N/A	25.66	<1	<1	54	yes	YES	50



“Guardian” Disposable Bacterial / Viral Filter

BF101- Guardian Filter

19mm Disposable Bacterial/Viral Filter



BF102- Guardian Filter

*19mm Disposable Bacterial / Viral Filter
that will accept 19mm or 30mm PEEP
Valve*

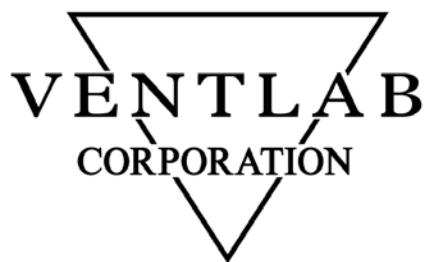


BF103- Guardian Filter

*30mm Disposable Bacterial / Viral Filter
that will accept 19mm or 30mm PEEP
Valve*



LATEX FREE



BreatheRite Spacers

BR100- BreatheRite Rigid Spacer

The BreatheRite Spacer can be purchased separately or packaged with any Ventlab mask.

<u>Product #</u>	<u>Description</u>	<u>Case Qty.</u>
BR110	Rigid Spacer w/Adult O2 mask	20
BR120	Rigid Spacer w/Medium O2 mask	20
BR130	Rigid Spacer w/Small O2 mask	20
BR101	Rigid Spacer w/ small infant mask	20
BR102	Rigid Spacer w/infant mask	20
BR103	Rigid Spacer w/small child mask	20
BR104	Rigid Spacer w/child mask	20
BR105	Rigid Spacer w/adult mask	20



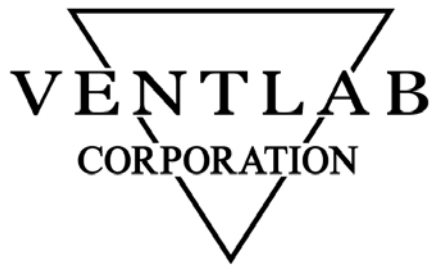
BR200-Collapsible BreatheRite Spacer

The BreatheRite Collapsible Spacer is designed for increased portability. This item can be purchased separately or packaged with any Ventlab mask.

<u>Product #</u>	<u>Description</u>	<u>Case Qty.</u>
BR210	Collapsible Spacer w/Adult O2 mask	20
BR220	Collapsible Spacer w/Medium O2 mask	20
BR230	Collapsible Spacer w/Small O2 mask	20
BR201	Collapsible Spacer w/ small infant mask	20
BR202	Collapsible Spacer w/infant mask	20
BR203	Collapsible Spacer w/small child mask	20
BR204	Collapsible Spacer w/child mask	20
BR205	Collapsible Spacer w/adult mask	20



LATEX FREE



Ventlab Face Masks For BreatheRite Spacers

O₂ Masks- Our O₂ masks are available in three sizes, which can be ordered separately or combined with spacer products.



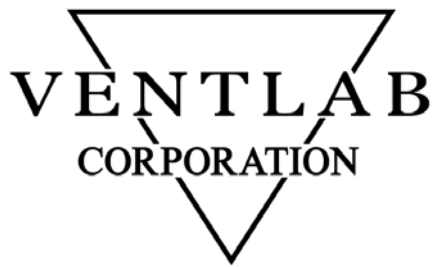
M10

M20

M30

Product # Qty.	Description	Case
M10	Large O ₂ Mask	10
M20	Medium O ₂ Mask	10
M30	Small O ₂ Mask	10

LATEX FREE



VENTLAB NASAL INSERT CPAP SYSTEM FOR CPAP OR BI-LEVEL VENTILATION THERAPY

This complete cannula system offers the benefits needed to ensure patient comfort and satisfaction. Our design enhances patient mobility and provides the comfort people demand. The Ventlab Disposable Nasal CPAP Interface is used with positive pressure ventilation devices for patients with pulmonary insufficiencies or breathing that requires positive pressure breathing therapy (e.g. CPAP or Bi-Level ventilation).



The Ventlab Universal Circuit for CPAP and Bi-Level is the most universal single limb circuit on the market. The circuit will interface with flow generators and ventilator support systems manufactured in the United States, Australia, France and Germany.





Ventlab CPAP Products

Disposable Nasal CPAP Interface System- The Ventlab Nasal CPAP interface is used with positive pressure ventilation devices for patients with pulmonary insufficiencies or breathing disorders that require positive pressure breathing therapy.



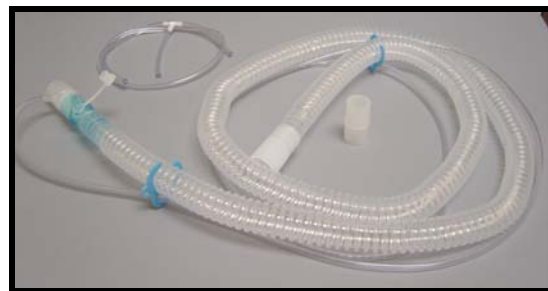
Ventlab Disposable Nasal Cannula System for CPAP & BI-Level with Disposable Universal Circuit

<u>Product #</u>	<u>Description</u>	<u>Case Qty.</u>
CS4000	Small Interface System	10
CS4001	Medium Interface System	10
CS4002	Large Interface System	10
CS4003	X-Large Interface System	10



<u>Product #</u>	<u>Description</u>	<u>Case Qty.</u>
CS4000C	Small Interface System & Circuit	10
CS4001C	Med. Interface System & Circuit	10
CS4002C	Large Interface System & Circuit	10
CS4003C	X-Large Interface System & Circuit	10

<u>Product #</u>	<u>Description</u>	<u>Case Qty.</u>
CS9000EA	Home Care Unit: Contains all 4	1
CS9000	sizes of Interface System, 3 Headgear, Circuit and Instructional video	6



UC1000- Ventlab Disposable Nasal Cannula System for CPAP & BI-Level with Disposable Universal Circuit

LATEX FREE



CS4000C Series

Ventlab Nasal Cannula System for CPAP & Bi-level with Disposable Universal Circuit

Rx ONLY

SINGLE PATIENT USE ONLY

The Ventlab Nasal Cannula System for CPAP and Bi-Level is used in conjunction with the Ventlab Disposable Universal Bi-level Circuit to provide an interface and connection to a flow generator for a patient requiring positive pressure non-invasive ventilation.

- CAUTIONS:**
- Do not remove inline dual ported or adapter or pressure monitoring tubing.
 - Do not soak, rinse, wash, or sterilize this product by any means.

Standard Components

The Ventlab Cannula System:

- Soft latex free silicone cannula with exhalation ports.
- Padded *Comfort Fit* Headgear
- Directional tubing clips
- Soft tubing set with 22mm OD swivel.

Circuit:

- 72" Smooth Bore tubing with pressure monitoring line and dual ported adapter
- 24" Extension tubing with Tee assembly for dual pressure monitoring.

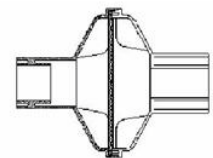


Optional Component:

Soft Headgear
with hook and
loop closure and
adjustment.



Bacterial/Viral
Filter >99.99%



Pressure will be monitored in-line at the connection between the interface and the circuit.

Dual ported adapter:



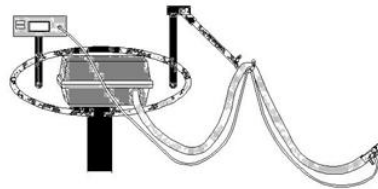
Exhalation Port Testing or use as exhalation port:

The dual ported adapter will serve as an exhalation port when testing or used in conjunction with a non-vented interface.

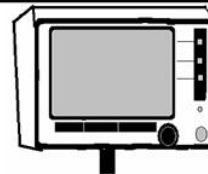
O₂ Entrainment:

The dual ported adapter will serve as O₂ entrainment port when an internal blender is not available.

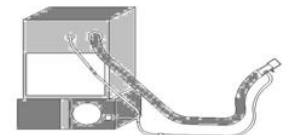
Circuit Connection:



1. Attach the disposable circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the circuit.
4. Use male luer connector to attach pressure tubing to external alarm.



1. Attach the disposable circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the circuit.
4. Luer will need to be removed to attach pressure tubing to transducer on front of the flow generator



1. Attach the disposable circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the circuit.
4. Use male luer as pressure tubing connector to attach extension tubing and tee assembly to pressure transducer located on front of flow generator.



UC1000 Series Universal Disposable Circuit

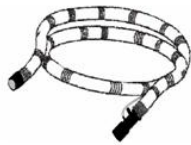
Use as a conduit for gases between a positive pressure generator and a patient during Non-Invasive ventilation.

Single Patient Use

Latex Free

Rx only

Standard Components



72" Smooth Bore tubing with pressure monitoring line and dual ported adapter



22 mm OD Adapter



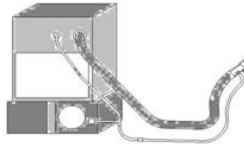
24" Extension tubing with Tee assembly for dual pressure monitoring



Bacterial/Viral Filter >99.99%

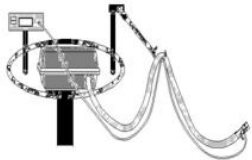
Optional Component

Pressure will be monitored in-line at the connection between the interface and the circuit.



Circuit assembly when using dual pressure monitoring extension assembly:

1. Attach the disposable circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the circuit.
4. Use male luer as pressure tubing connector to attach extension tubing and tee assembly to pressure transducer located on front of flow generator.



Circuit assembly when using male luer connection:

1. Attach the disposable circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the air tubing.
4. Use male luer connector to attach pressure tubing to external alarm.



Circuit assembly without male luer connection:

1. Attach the disposable Circuit to the outlet port of the flow generator.
2. If using a bacterial/viral filter, place between the circuit and outlet port of the flow generator.
3. Attach the interface to the opposite end of the circuit.
4. Luer will need to be removed to attach pressure tubing to transducer on front of the flow generator



Use of the dual ported adapter:

Exhalation Port Testing or use as exhalation port

The dual ported adapter will serve as an exhalation port when testing or used in conjunction with a non-vented interface.

Used for O₂ Entrainment

The dual ported adapter will serve as O₂ entrainment port when an internal blender is not available.

Warnings:

When using a full face non-vented mask, REMOVE & DISCARD TETHERED CAP FROM EXHALATION PORT.

Failure to use a properly vented interface or install an in-line exhalation port when using a "non-vented" mask may cause serious patient injury or suffocation.

Do not block the vent hole in the in-line exhalation port connector when using a "non-ported" or "non-vented interface".

Cautions:

**Do not soak , rinse, wash, or sterilize this product by any means.
Do not remove inline dual ported adapter or pressure monitoring tubing.**

The Ventlab Universal Bi-Level Circuit With “THE VISION”

1. Take the circuit out of the bag.
 2. Remove or cut the male luer from pressure tubing.
 3. Push pressure tubing on to pressure transducer connection on the front of The Vision.
 4. Place the air tubing cuff (22 mm ID) on to the blower outlet (22mm OD) located on the front of The Vision.
 5. Turn The Vision on. It will run a self test. The LED Screen on the Vision will show “Test Exhalation Port”. Push the soft Key.
 6. If exhalation port is capped, uncap it.
 7. Occlude the end of the circuit with your hand or thumb. Push the soft key that shows “Start Test”.
 8. The test will show complete after about 10 seconds.
 9. Attach Interface to be used.
- **VENTED INTERFACES** (i.e. Ventlab Cannula System, Ported Resmed Full Face Mask and other ported interfaces) **CAP THE EXHALATION PORT.**
 - **NON-VENTED INTERFACES** (Respironics Full Face Mask)
REMOVE AND DISCARD TETHERED CAP.

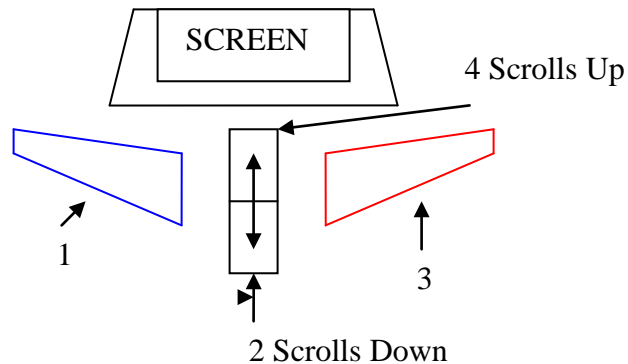
What we Know about our Universal Circuit and The Vision (in General)

1. **Our Circuit will function properly on The Vision.**
2. **The Ventlab Cannula system & Universal Circuit will function properly on The Vision.**
3. **A Resmed Mask with our exhalation port closed will function properly on The Vision.**
4. **Our flow rate through our exhalation port is within 2 l/m of the flow through the Respironics “Whisper Flow”.**
5. **The Vision is capable of leak compensation > 100 l/m.**
6. **The Vision has an internal blender for oxygen.**

Resmed Auto-Set Spirit

- The Spirit is an auto adjust CPAP machine or APAP (Auto adjusting Positive Airway Pressure)
- Varies between 2 set pressures
- May or may not have external alarms (luer connection)

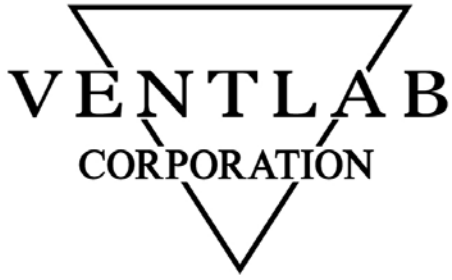
1. Button is Blue
- 2 & 4 Button is White this is also button 4 a rocker contact (2/4) it will allow you to scroll up & down through the menu..
3. Button is Red (Select Button)



To Set Pressures:

1. Press and hold Buttons 2 & 3 simultaneously. While holding, turn machine main power on. Continue to hold buttons 2 & 3 for 5 seconds until the screen switches to clinical mode. Machine will generate a flow of air.
2. First option on screen will be CPAP or Auto. These are the only two options. Only one option will display at a time. Use button 2/4 to scroll through options and press button 3(red) to select mode of choice.
3. If Auto is set mode it will show set pressure range. Push the red button to select.
4. Screen will show low & numbers in .2 cm H₂O. Button 4 scrolls numbers upward and button 2 decreases quantity. To set low pressure, press button 3 and move to next screen.
5. High will be on the next screen with numbers in .2 cmH₂O increments. This number will be set higher than the number set for Low. Buttons 2 & 4 scroll and button 3 selects your high pressure setting.
6. You will see “patient mode”. Push button 3. Machine is set.

*** Ventlab Cannula System has a 22mm OD connection and will fit into any standard circuit. ***



Adjustable Disposable PEEP Valves



VP700
19mm Adjustable PEEP Valve



VP702
19mm Adjustable PEEP Valve
with 30mm Adapter



VP701
30mm Adjustable PEEP Valve



VP703
30mm Adjustable PEEP Valve
with 19mm Adapter

LATEX FREE



Leak Comparisons

**Ventlab
Dual Port**



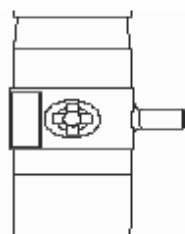
5cmH₂O
16.4 l/m

10cmH₂O
24.0 l/m

15cmH₂O
29.2 l/m

20cmH₂O
33.4 l/m

**Respironics
DPE**



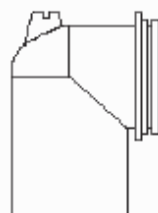
13.7 l/m

19.8 l/m

24.3 l/m

28.1 l/m

**Respironics
Castle Port**



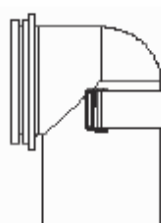
15.0 l/m

21.4 l/m

26.2 l/m

30.4 l/m

**Respironics
Mute**



17.9 l/m

25.5 l/m

31.4 l/m

36.7 l/m

**Respironics
Entrainment**



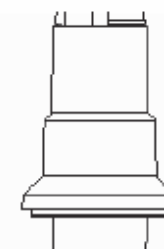
18.6 l/m

27.5 l/m

34.2 l/m

39.7 l/m

**Respironics
Whisper Swivel**



17.3 l/m

26.2 l/m

33.4 l/m

39.6 l/m

This table shows estimated leak flow rate values

Product #	Cannula Size	Headgear Type	Sizing Guide	Universal Circuit	B/V Filter	22mm ID/OD & Pressure Monitoring or dual port	22mm ID/ID
CS4000	Small	Comfort Fit (standard)	yes	no	no	yes	yes
CS4000S	Small	Soft	no	no	no	yes	yes
CS4000C	Small	Comfort Fit (standard)	yes	yes	no	yes with circuit (installed)	no
CS4000CF	Small	Comfort Fit (standard)	yes	yes	yes	yes with circuit (installed)	no
CS4000CS	Small	Soft	no	yes	no	yes with circuit (installed)	yes
CS4000CSF	Small	Soft	no	yes	yes	yes with circuit (installed)	yes
CS4001	Medium	Comfort Fit (standard)	yes	no	no	yes	yes
CS4001S	Medium	Soft	no	no	no	yes	yes
CS4001C	Medium	Comfort Fit (standard)	yes	yes	no	yes with circuit (installed)	no
CS4001CF	Medium	Comfort Fit (standard)	yes	yes	yes	yes with circuit (installed)	no
CS4001CS	Medium	Soft	no	yes	no	yes with circuit (installed)	no
CS4001CSF	Medium	Soft	no	yes	yes	yes with circuit (installed)	no
CS4002	Large	Comfort Fit (standard)	yes	no	no	yes	yes
CS4002S	Large	Soft	no	no	no	yes	yes
CS4002C	Large	Comfort Fit (standard)	yes	yes	no	yes with circuit (installed)	no
CS4002CF	Large	Comfort Fit (standard)	yes	yes	yes	yes with circuit (installed)	no
CS4002CS	Large	Soft	no	yes	no	yes with circuit (installed)	no
CS4002CSF	Large	Soft	no	yes	yes	yes with circuit (installed)	no
CS4003	X- Large	Comfort Fit (standard)	yes	no	no	yes	yes
CS4003S	X- Large	Soft	no	no	no	yes	yes
CS4003C	X- Large	Comfort Fit (standard)	yes	yes	no	yes with circuit (installed)	no
CS4003CF	X- Large	Comfort Fit (standard)	yes	yes	yes	yes with circuit (installed)	no
CS4003CS	X- Large	Soft	no	yes	no	yes with circuit (installed)	no
CS4003CSF	X- Large	Soft	no	yes	yes	yes with circuit (installed)	no
CDS4010	S, M, L, XLg	Comfort Fit(Stan), & Soft	yes	no	no	yes	yes
CS4010	S, M, L, XLg	Comfort Fit (Standard)	yes	no	no	yes	yes
CS4010C	S, M, L, XLg	Comfort Fit (Standard)	yes	yes	no	yes with circuit (installed)	no
CS4010CS	S, M, L, XLg	Soft	yes	yes	no	yes with circuit (installed)	no
CS4010CF	S, M, L, XLg	Comfort Fit (Standard)	yes	yes	yes	yes with circuit (installed)	no
CS4010SCF	S, M, L, XLg	Comfort Fit(Stan), & Soft	yes	yes	yes	yes with circuit (installed)	no

Product #	22mm OD/OD	B/V Filter	Dual Port Adapter		
UC1000	yes	no	yes installed		
UC1000F	yes	yes	yes installed		
RC1000	yes	no	yes installed	*Luer connector in extension*	For Respiration Vision and STD-30
RC1000F	yes	yes	yes installed		
RCV 1000	yes	no	yes installed		

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THE LYFETYMER 6 SECOND METRONOME

Reviewed by Paul Mathews PhD, RRT



This issue's product review is a divergence from the usual type of equipment we review. It is not a ventilator, ABG analyzer or other large piece of capital equipment. It's not a device that costs thousands or even hundreds of dollars. It is smaller than your cell phone, lighter than a nickel, long lasting and accurate. Additionally, it responds well, and directly to a need that, while evident to some of us as observers, is difficult to meet by many. What is this device you ask? It's all in the name.

The *Lyfetymer 6 Second Metronome* is a small inexpensive device that was recently developed to help meet the new American Heart Association (AHA) CPR guidelines (**American Heart Association 2005 Guidelines for CPR and ECC***) as those guidelines relate to the rate of ventilation - more specifically, the *number* of manually delivered breathes given by a rescuer during a CPR event.

Compression-Ventilation Ratio - As we all know, once an advanced airway is in place, two rescuers are no longer need to deliver "cycles" of CPR (ie, compressions interrupted by pauses for ventilation). Instead, the *compressing rescuer* should give continuous chest compressions at a rate of 100 per minute without pauses for ventilation. The rescuer delivering *ventilation* is simultaneously supposed to provide 8 to 10 breaths per minute via manual resuscitator (or mouth to mouth if the situation calls for it.) The two rescuers, then, are supposed to change compressor - ventilator roles approximately

every 2 minutes to prevent compressor fatigue and deterioration in quality and rate of chest compressions.

The *Lyfetymer 6 second Metronome* device, is about 1 and 7/16 inches in diameter - about the size of the bell on a standard adult stethoscope. It is 3/8 inch (1 cm) thick at its maximum thickness and it is made of a transparent domed plastic covering a mirrored silvered disk with a small bright red light protruding into the space provided by the domed design. This whole assembly is held together by a metallic ring and sits on a 3M adhesive disk which, in turn, covers a chip and small battery. The chip is designed to pulse a light every 6 seconds (10 times a minute) therefore providing a visual signal of that passage of time - perfect for a visual signal to "bag" the patient *exactly* 10 times per minute.

To use the *Lyfetymer*, one simply removes it from its package, pulls the battery tab and peels back the adhesive covering to stick it to any surface. Of course, sticking it to the surface of a manual resuscitator is the idea here. By doing so, one can constantly look at the patient and the resuscitator while watching the red light blink every six seconds to deliver a manual breath with perfect timing.

The AHA recommendations actually address the issue of "prompts" as an aid to proper CPR, thus, this device is perfect in regard to the part of CPR having to do with ventilation. It's interesting to note how incorrect people actually are when depending on their own sense of time to deliver 10 breaths per minute. In several unpublished studies performed here at the University of Kansas (as part of our senior year research methods course) we found that most people either over or under estimated the passage of time. For example, we used a telegraph key-like device to activate or deactivate an electronic stop watch not visible to the subject. The subjects were instructed to activate the stop watch by pressing the key at their own convenience. They were told to wait 10 seconds and deactivate the watch by pressing the key again. The activity was repeated 5 times. In this study there was a response variance of 1-3 seconds on average growing larger and with more rapid deactivation with repetition. Most people admitted to "counting in their head" but even that was inaccurate.

Another study simulated CPR using a manikin. The individuals performing the simulation were timed for both compression and bagging. At the start of the exercise we kept things "calm" providing timing feedback by means of a metronome. As the exercise progressed, however, we stopped the metronome and raised the tension level by role playing other code participants. All the while we were timing the rescuer's activities. As the metronomic feedback was halted and the "pressure to perform" increased, the rate of both compressions and ventilation increased. What should have been 10 breathes per minute rose to 16 or more breathes while compressions rose from 60 to anywhere up to 90 per minute.

Clearly it is difficult for individuals to accurately judge the passage of time even in the most quiet and controlled of condi-



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CIRCLE READER ACTION CARD # 43

tions although everyone thinks they're an expert at it! Add to that problem the effects of stress and expectations to perform, and the time judgment ability deteriorates even more. The AHA Standards cite several studies indicating that the use of CPR "prompts" may be useful in both hospital-based CPR and in pre-hospital CPR attempts. Indeed numerous emergency service and ambulance companies are using the Lyfetymer for this purpose.

CPR Prompts - Evidence from 2 adult studies show that the chest compression rate during unprompted CPR is frequently inadequate in both out-of-hospital and in-hospital settings. Human, animal, and manikin studies showed consistent improvement in end-tidal CO₂ and/or quality of CPR in both the out-of-hospital and in-hospital settings when CPR prompt devices were used. A CPR prompt device may be useful in both out-of-hospital and in-hospital settings"

Testing and Evaluation

To evaluate these devices I took several of them and subjected them to tests of accuracy, duration, adhesiveness, durability and comfort.

Accuracy was measured by starting a computer based electronic stopwatch (interval timer). We used the stopwatch from easysurf (<http://www.easysurf.cc/stimer.htm>) which required mouse clicks to start and stop the timer. There was some variance noted, likely due to eye hand response time but the variance was less than 0.25 seconds.

Duration referred to the length of time the battery would provide power. I randomly selected three Lyfetymers and activated them at approximately 5:00 PM on a Monday. A full week later the device was still flashing. Currently the flash cycle time is 6.03 seconds. Clearly the duration of the power source and the accuracy far exceeds any conceivable code situation.

Adhesiveness was tested by applying the Lyfetymer to several different surfaces removing them and rotating them to other surfaces. I also applied them to several types of bag-valve-mask (BVM) devices with excellent results. They stuck securely (the device uses 3M adhesive) and removed with relative ease, but not so easy as to accidentally be dislodged.

Durability was studied by dropping a Lyfetymer to a tiled floor several times from heights ranging from 2 to 7 feet, hitting it with moderate force several times to simulate possible impacts against a wall or bedside. In all cases the device tested survived without damage or change of function.

Conclusions This is not rocket science by any means. As I stated in the beginning, this is simply a little light that blinks every six seconds. It does, however, actually have a very important role when it comes to CPR, thus I recommend that managers look into purchasing it so that it can be attached to every manual resuscitator used in the hospital, sleep lab or home. Remember, even the most experienced CPR rescuers usually bag much more frequently than they need to, so this easy to use device is actually a God-send in that regard. It's accurate, sturdy, inexpensive and does the job of fulfilling the prompting recommendations of the AHA's new standards. By leaving the battery activation tab in place it could be pre-positioned on any BMV in any setting to be quickly and easily activated by pulling the tab.

The Lyfetymer metronome can be purchased by contacting the company at 631-736-3239 and/or by visiting their web-site located at www.LYFETYMER.com.

Dr. Paul Mathews PhD, RRT, FAARC is a veteran therapist, educator, author, lecturer and past President of the AARC. He is also an Assistant Professor at the University of Kansas Respiratory Care Program.

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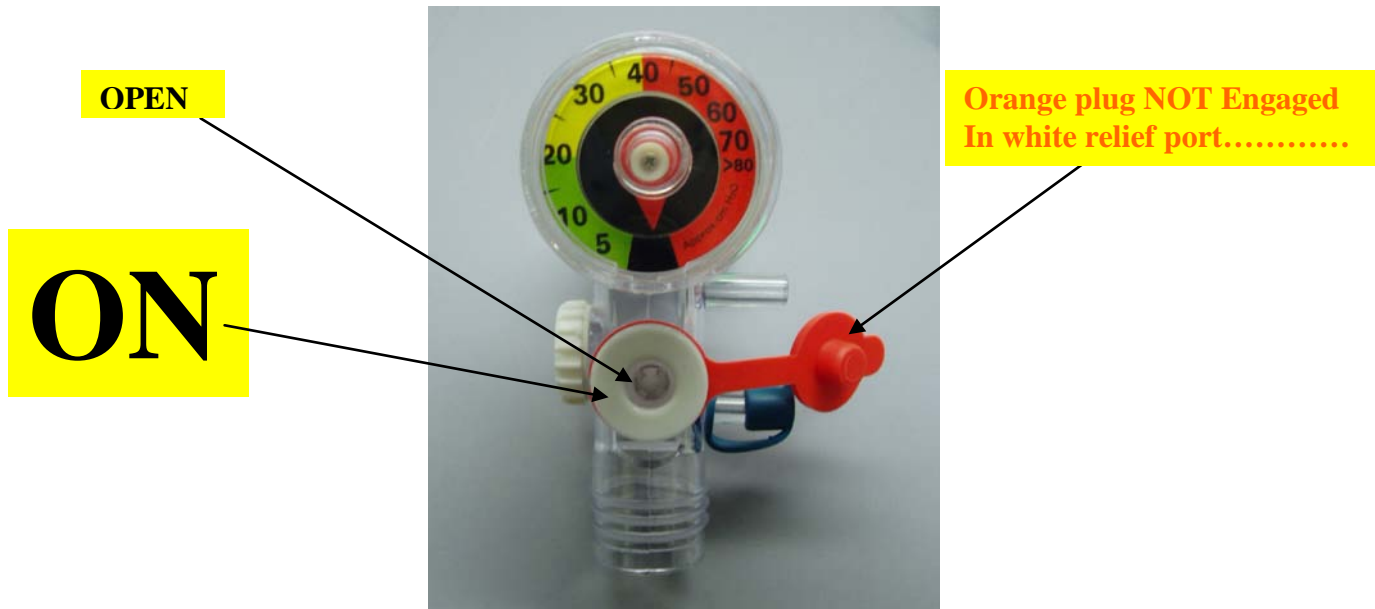
CIRCLE READER ACTION CARD # 45

Pop-OFF Feature: **ACTIVE**

Notice that the (white) relief port in the Pop-OFF valve is visible.

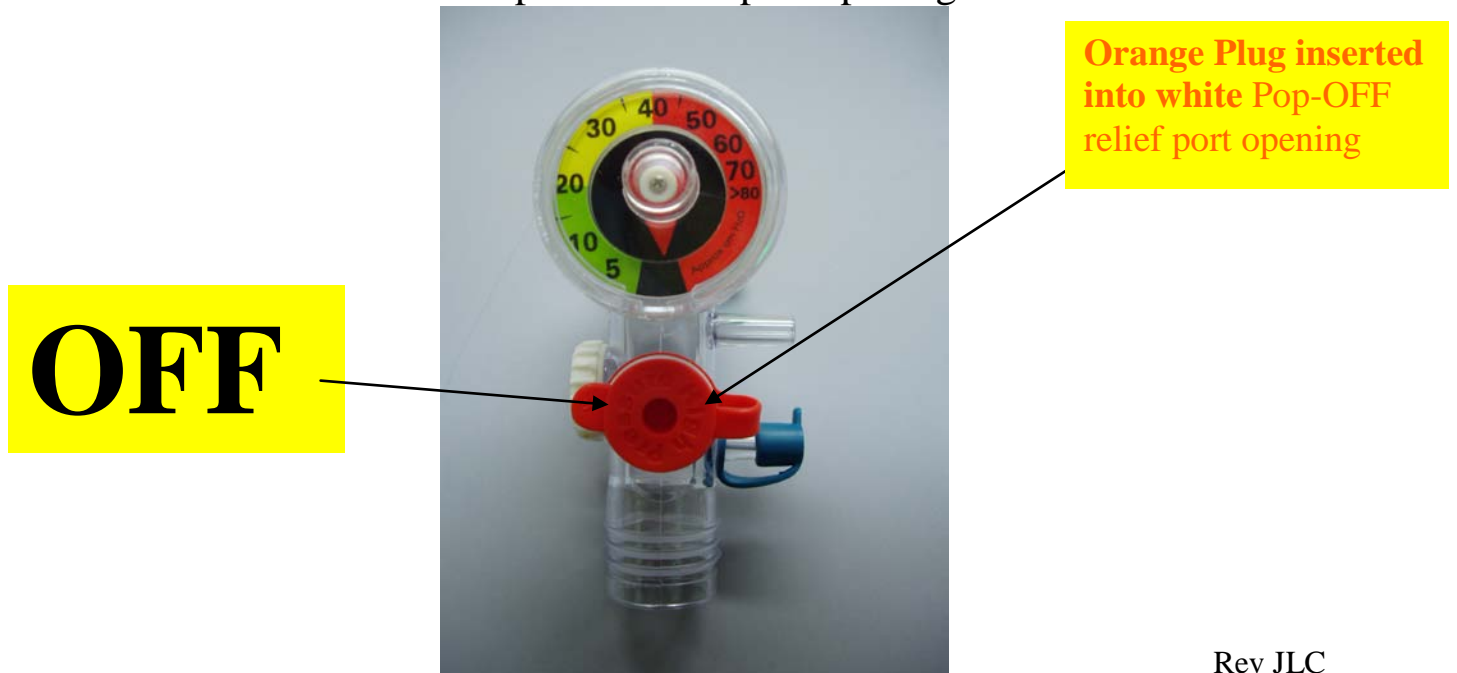
The **ORANGE CAP** on stringer is ‘**NOT**’

Occluding white Pop-OFF relief port



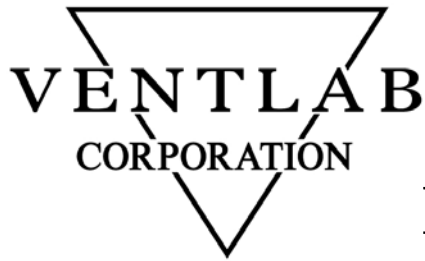
Pop-OFF Feature in **OVERRIDE** or High Pressure Mode

To **TURN OFF** the Pop-OFF, insert the tethered plug into the Pop-OFF relief port opening.



Rev JLC

- For complete product usage instruction, refer to products “Instruction for Use” insert.



Pressure Infusion Cuffs

The Ventlab Pressure Infusion bag is constructed of durable vinyl with a color-coded pressure gauge. The see-thru mesh material allows for easy visibility.

VC405- 500 ml Pressure Infusion Cuff with inflator bulb and color-coded pressure gauge.



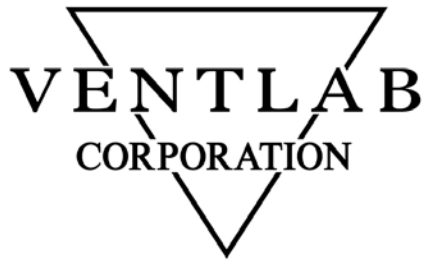
VC410- 1000 ml Pressure Infusion Cuff with inflator bulb and color-coded pressure gauge.



VC430- 3000 ml Pressure Infusion Cuff with inflator bulb and color-coded pressure gauge.



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Adult Nasal Cannula

1100 – Adult cannula *without* supply tube



1104 – Adult cannula with 4' supply tube
(ideal for portable units)

1107 – Adult cannula with 7' supply tube

1107F – Adult cannula with 7' supply tube w/ fits-all
connector

1115 – Adult cannula with 7' supply tube

1115F – Adult cannula with 15' supply tube w/ fits-all
connector

1125 – Adult cannula with 25' supply tube



1007 – Adult Conventional cannula with 7' supply tube

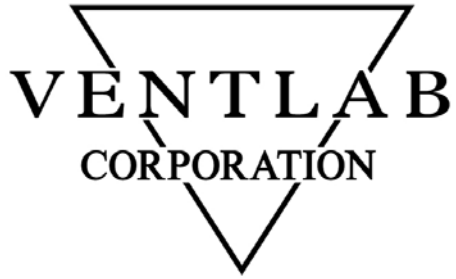


1104HF – Adult High Flow cannula with 4' supply tube

1107HF – Adult High Flow cannula with 7' supply tube

1115HF – Adult cannula with 7' supply tube w/ fits-all
connector



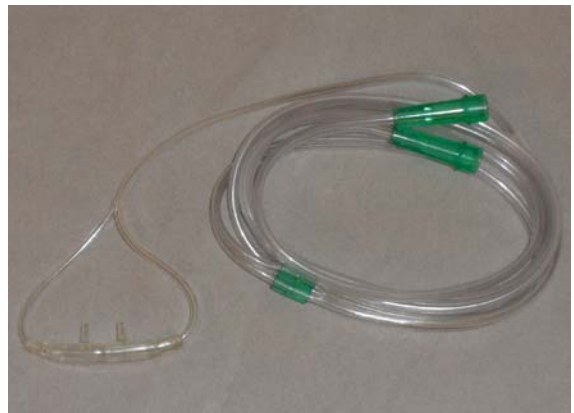


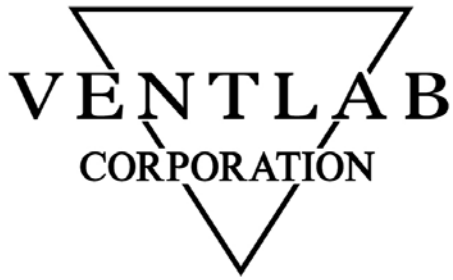
Demand Cannulas

4144 – Adult, Demand cannula with 4’ supply tubes

4145 – Adult, Demand cannula with 5’ supply tubes

4147 – Adult, Demand cannula with 7’ supply tubes





Pediatric, Infant and Neonate Nasal Cannulas

1207 – Pediatric clear cannula with 7' supply tube

1207F – Pediatric clear cannula with 7' supply tube w/
fits-all connector



1307 – Infant clear cannula with 7' supply tube

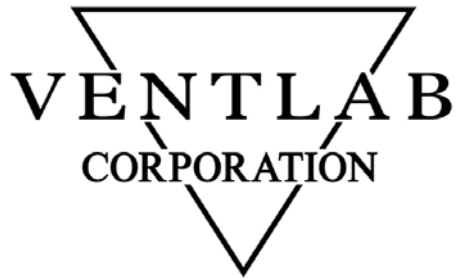
1307F – Infant clear cannula with 7' supply tube w/
fits-all connector



1407 – Neonatal clear cannula with 7' supply tube

1407F – Neonatal clear cannula with 7' supply tube
w/ fits-all connector





Nebulizers and Kits

5000 – SVN full kit, nebulizer, “T”, mouthpiece, flex tube, 7’ supply tube

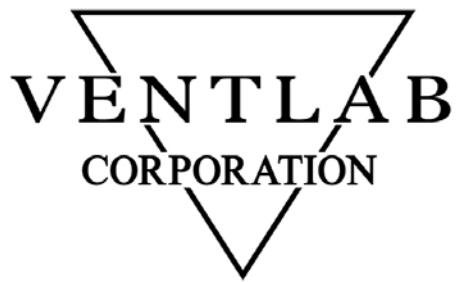
5001 – Nebulizer only

5110 – SVN, Nebulizer with adult aerosol mask and 7’ supply tube

5210 – SVN, Nebulizer with pediatric aerosol mask and 7’ supply tube

5310 – SVN, Nebulizer with infant aerosol mask and 7’ supply tube





Aerosol Masks

2110 – Adult Aerosol Mask

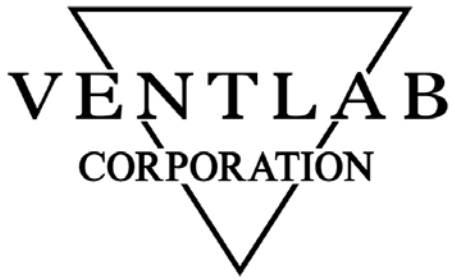


2210 – Pediatric Aerosol Mask



2310 – Infant Aerosol Mask





Oxygen Supply Tubing

3007 – 7' oxygen supply tube

3007G – 7' green oxygen supply tube

3007F – 7' supply tube w/ fits-all connector

3015 – 15' oxygen supply tube

3015G – 15' green oxygen supply tube

3025 – 25' oxygen supply tube

3025G – 25' green oxygen supply tube

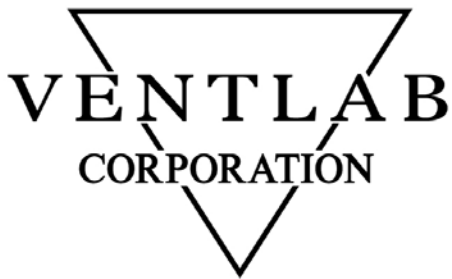
3040 – 40' oxygen supply tube

3040G – 40' green oxygen supply tube

3050 – 50' oxygen supply tube

3050G – 50' green oxygen supply tube





Oxygen Masks

Medium Concentration

2100 – Adult 7' with safety tubing

2200 – Pediatric 7' with safety tubing

2300 – Infant with 7' safety tubing



High Concentration Partial Non-Rebreather

2101 – Adult with 7' safety tubing

2201 – Pediatric with 7' safety tubing

2301 – Infant with 7' safety tubing



High Concentration Non-Rebreather

2102 – Adult with 7' safety tubing

2202 – Pediatric with 7' safety tubing





Accessories

6004 – Cylinder Wrench

6005 – Cylinder Wrench w/ chain



6000 – Water trap



6001 – O2 tubing connector

